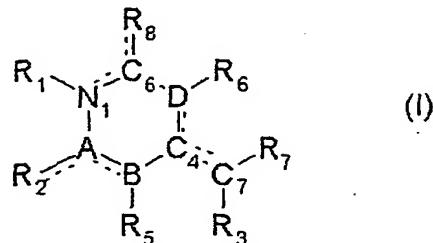


CLAIMS

1. A compound corresponding to general formula (I)



5

in which:

A represents C or N,

B and D, which may be identical or different, are chosen from N or C, with the proviso that A and B do 10 not simultaneously represent a nitrogen atom,

R<sub>1</sub> represents

- either a hydrogen atom,
- or a (C<sub>1</sub>-C<sub>12</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, (C<sub>6</sub>-C<sub>18</sub>)aryl, (C<sub>6</sub>-C<sub>18</sub>)aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>12</sub>)alkyl(C<sub>6</sub>-C<sub>18</sub>)aryl,
- 15 (C<sub>2</sub>-C<sub>8</sub>)alkenyl, (C<sub>2</sub>-C<sub>8</sub>)alkynyl, (C<sub>1</sub>-C<sub>8</sub>)alkoxy or hydroxyl group,
- or an aromatic or nonaromatic (C<sub>5</sub>-C<sub>18</sub>)heterocycle containing from 1 to 3 hetero atoms and being attached directly to the nitrogen atom in the 20 1-position by means of a single bond or by means of a (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl or (C<sub>2</sub>-C<sub>6</sub>)alkynyl group,

25 - or a group NR'R'' or NHCOR'R'', R' and R'', independently of one another, being chosen from a hydrogen atom, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl and (C<sub>6</sub>-C<sub>12</sub>)aryl groups, and aromatic or nonaromatic (C<sub>5</sub>-C<sub>12</sub>)heterocycles containing from 1 to 3 hetero atoms;

30 R<sub>2</sub> and R<sub>3</sub>, which may be identical or different, each represent

- either a hydrogen atom,
- or a halogen atom,
- or a group: (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)-

alkylCOOH, (C<sub>1</sub>-C<sub>6</sub>)alkylCOONa, perfluoro(C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, acyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>6</sub>-C<sub>18</sub>)aryl, (C<sub>6</sub>-C<sub>18</sub>)arylCOOH, (C<sub>6</sub>-C<sub>18</sub>)arylCOONa, (C<sub>6</sub>-C<sub>18</sub>)aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)-alkyl(C<sub>6</sub>-C<sub>18</sub>)aryl, (C<sub>5</sub>-C<sub>18</sub>)heteroaryl, (C<sub>1</sub>-C<sub>6</sub>)alkyl-(C<sub>5</sub>-C<sub>18</sub>)heteroaryl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl(C<sub>5</sub>-C<sub>18</sub>)heteroaryl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl(C<sub>5</sub>-C<sub>18</sub>)heteroaryl, CH(OH)(C<sub>6</sub>-C<sub>18</sub>)aryl, CO(C<sub>6</sub>-C<sub>18</sub>)aryl, (CH<sub>2</sub>)<sub>n</sub>CONH-(CH<sub>2</sub>)<sub>m</sub>-(C<sub>6</sub>-C<sub>18</sub>)aryl, (CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>NH-(CH<sub>2</sub>)<sub>m</sub>-(C<sub>6</sub>-C<sub>18</sub>)aryl or (CH<sub>2</sub>)<sub>n</sub>CONH-CH(COOH)-(CH<sub>2</sub>)<sub>p</sub>-(C<sub>6</sub>-C<sub>18</sub>)aryl with n = 1 to 4, m = 0 to 3 and p = 0 to 2, in which one or more groups -CH<sub>2</sub>- can be optionally replaced with -O-, -S-, -S(O)-, -S(O)<sub>2</sub>- or -NH-, and can be optionally substituted with one or more radicals chosen from the following radicals: (C<sub>1</sub>-C<sub>6</sub>)alkyl, hydroxyl, oxo, (C<sub>6</sub>-C<sub>18</sub>)aryl(C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>6</sub>-C<sub>18</sub>)aryl, halogen, cyano, phosphate, alkylphosphate, nitro, alkoxy, (C<sub>5</sub>-C<sub>18</sub>)heteroaryl, (C<sub>5</sub>-C<sub>18</sub>)heteroaryl(C<sub>1</sub>-C<sub>6</sub>)alkyl, COOH, CONR<sub>x</sub>R<sub>y</sub>, NR<sub>x</sub>CONHR<sub>y</sub>, OR<sub>x</sub>, SR<sub>x</sub>, SOR<sub>x</sub>, SO<sub>2</sub>R<sub>x</sub>, COR<sub>x</sub>, COOR<sub>x</sub>, NR<sub>x</sub>SO<sub>2</sub>R<sub>y</sub> or NR<sub>x</sub>R<sub>y</sub> in which (i) R<sub>x</sub> and R<sub>y</sub>, independently of one another, are chosen from a hydrogen atom and the following groups: (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, (C<sub>6</sub>-C<sub>18</sub>)aryl, (C<sub>6</sub>-C<sub>18</sub>)aryl-(C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>12</sub>)alkyl(C<sub>6</sub>-C<sub>18</sub>)aryl, (C<sub>3</sub>-C<sub>6</sub>)-cycloalkyl(C<sub>6</sub>-C<sub>12</sub>)aryl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>5</sub>-C<sub>12</sub>)heteroaryl containing 1 to 3 hetero atoms, OR', NR'R'' and NHCOR'R'', R' and R'', independently of one another, being chosen from a hydrogen atom, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl and (C<sub>6</sub>-C<sub>12</sub>)aryl groups, and aromatic or nonaromatic (C<sub>5</sub>-C<sub>12</sub>)heterocycles containing 1 to 3 hetero atoms, or (ii) R<sub>x</sub> and R<sub>y</sub> together form a linear or branched hydrocarbon-based chain having from 2 to 6 carbon atoms, optionally containing one or more double bonds and/or optionally interrupted with an oxygen, sulfur or nitrogen atom, - or a nitro, cyano, OR<sub>x</sub>, SR<sub>x</sub>, SOR<sub>x</sub>, SO<sub>2</sub>R<sub>x</sub>, COR<sub>x</sub>, CONR<sub>x</sub>R<sub>y</sub>, COOR<sub>x</sub>, NR<sub>x</sub>COR<sub>y</sub>, NR<sub>x</sub>SO<sub>2</sub>R<sub>y</sub> or NR<sub>x</sub>R<sub>y</sub> group in

which  $R_x$  and  $R_y$  are as defined above,

- it being understood that, in the definition of the groups  $R_2$  and  $R_3$ , the "aryl" groups can be replaced with aromatic or nonaromatic  $C_4-C_{10}$  "heterocycles" containing from 1 to 3 hetero atoms;

5        $R_5$  represents

- either a hydrogen atom,
- or a group:  $(C_1-C_6)$ alkyl,  $(C_3-C_6)$ cycloalkyl  $(C_6-C_{12})$ aryl, or  $(C_5-C_{12})$ heteroaryl containing 1 to 10 hetero atoms;

10        $R_6$  and  $R_7$  form, together with the atoms which carry them, a 5- or 6-membered ring which may contain another hetero atom chosen from the group consisting of N, O and S, and in which

- 15       if the bond between  $N_1$  and  $C_6$  is a single bond, then the bond between  $C_6$  and  $R_8$  is a double bond and  $R_8 = X$ , where X represents either an oxygen or sulfur atom, or a group  $NR_x$  in which  $R_x$  is as defined above,

- 20       if the bond between  $N_1$  and  $C_6$  is a double bond, then the bond between  $C_6$  and  $R_8$  is a single bond and  $R_8 = Y$  where Y represents either a halogen atom, or a  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl,  $(C_1-C_6)$ alkoxy,  $(C_3-C_6)$ -cycloalkyl,  $OR_x$ ,  $SR_x$ ,  $SOR_x$ ,  $SO_2R_x$ ,  $NR_xCOR_y$ ,  $NR_xSO_2R_y$  or  $NR_xR_y$  group in which  $R_x$  and  $R_y$  are as defined above and 25  $R_1$  is not present,

- if the bond between A and B is a single bond, then the bond between A and  $R_2$  is a double bond and  $R_2 = X$  where X is as defined above, and

- 30       if the bond between A and B is a double bond, then the bond between A and  $R_2$  is a single bond,  $R_2$  is as defined above and  $R_5$  is not present,

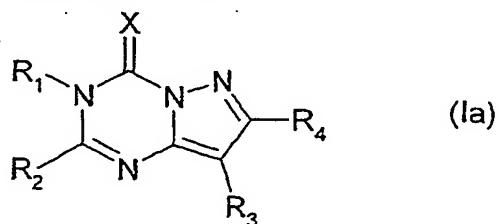
- if the bond between  $C_4$  and D is a single bond, then the bond between  $C_4$  and  $C_7$  is a double bond,

- 35       if the bond between  $C_4$  and D is a double bond, then the bond between  $C_4$  and  $C_7$  is a single bond, and D is a carbon atom, or else D is a nitrogen atom and  $R_6$  is not present,

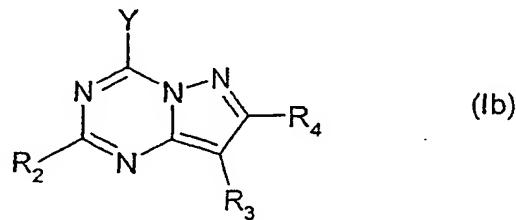
and it being understood that, when, in formula (I), the

fused 5-membered ring is an imidazole, A is a carbon atom and B is a nitrogen atom, then C<sub>4</sub> can be replaced with a nitrogen atom so that the 6-membered ring thus formed is a 1,2,4-triazine and the bicyclic thus formed  
5 is an imidazotriazine,

X, Y, R<sub>2</sub> and R<sub>3</sub> having the same meaning as above,  
its tautomeric forms, its isomers, diastereoisomers and  
enantiomers, its prodrugs, its bioprecursors and its  
pharmaceutically acceptable base or acid addition  
10 salts, with the proviso that, when the compound  
corresponds to formula (Ia),



or (Ib)



15 then

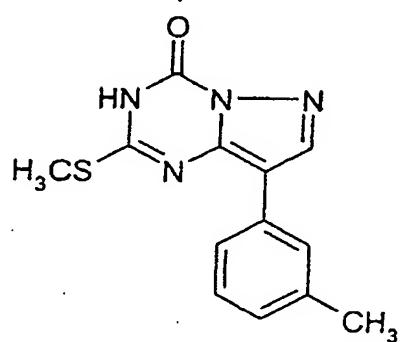
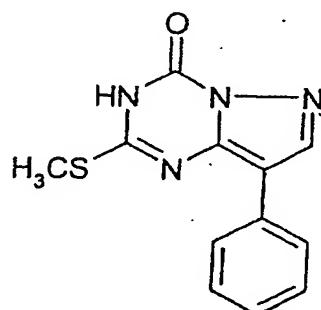
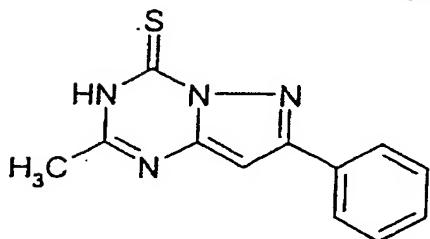
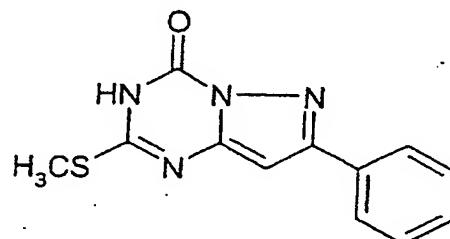
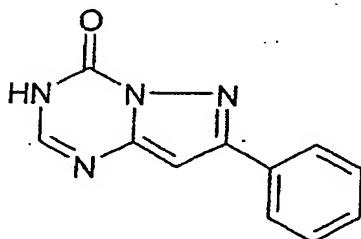
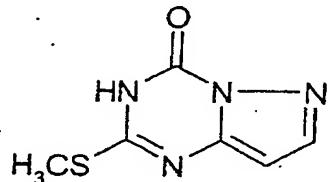
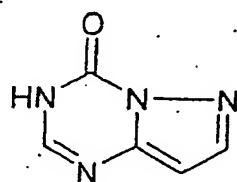
- when Y, in formula (Ib), represents OR<sub>x</sub>, then R<sub>x</sub> is necessarily different from aryl and aralkyl;
- when simultaneously, in formula (Ib), Y represents NR<sub>x</sub>R<sub>y</sub> and R<sub>x</sub> represents H, then R<sub>y</sub> is necessarily different from aryl and aralkyl;
- when Y, in formula (Ib), represents a group NR<sub>x</sub>R<sub>y</sub> in which at least one of the groups R<sub>x</sub> or R<sub>y</sub> is chosen from optionally substituted phenyl or pyridyl groups, then R<sub>3</sub> is different from a (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>2</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl, (C<sub>3</sub>-C<sub>8</sub>)cycloalkyl and (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl(C<sub>1</sub>-C<sub>4</sub>)alkyl group, it being possible for the latter to be optionally substituted;
- when R<sub>3</sub>, in formula (Ib), represents an optionally

substituted phenyl or pyridyl group, then Y is different from: NHCH(CH<sub>2</sub>CH<sub>2</sub>OMe)(CH<sub>2</sub>OMe), NHCH(Et)<sub>2</sub>, 2-ethylpiperid-1-yl, cyclobutylamino, N(Me)CH<sub>2</sub>CH=CH<sub>2</sub>, N(Et)CH<sub>2</sub>CH=CH<sub>2</sub>, N(Me)CH<sub>2</sub>cPr,  
5 N(Et)CH<sub>2</sub>cPr, N(Pr)CH<sub>2</sub>cPr, N(Me)Pr, N(Me)Et, N(Me)Bu, N(Me)propargyl, N(Et)propargyl, NHCH(CH<sub>3</sub>)CH(CH<sub>3</sub>)CH<sub>3</sub>, N(CH<sub>2</sub>CH<sub>2</sub>OMe)CH<sub>2</sub>CH=CH<sub>2</sub>, N(CH<sub>2</sub>CH<sub>2</sub>OMe)Me, N(CH<sub>2</sub>CH<sub>2</sub>OMe)Et, N(CH<sub>2</sub>CH<sub>2</sub>OMe)Pr, N(CH<sub>2</sub>CH<sub>2</sub>OMe)CH<sub>2</sub>cPr, NHCH(CH<sub>3</sub>)CH<sub>2</sub>CH<sub>3</sub>, NHCH(cPr)<sub>2</sub>,  
10 N(CH<sub>2</sub>CH<sub>2</sub>OMe)<sub>2</sub>, N(Et)<sub>2</sub> and cyclobutylamino;

- when R<sub>3</sub>, in formula (Ib), represents a phenyl, naphthyl, pyridyl, pyrimidyl, triazinyl, furanyl, thienyl, benzothienyl, benzofuranyl, 2,3-dihydrobenzofuranyl, 2,3-dihydrobenzothienyl, indanyl, 15 1,2-benzopyranyl, 3,4-dihydro-1,2-benzopyranyl or tetralinyl group, then R<sub>1</sub> in formula (Ia) is different from H;
- when simultaneously, in formula (Ib), R<sub>3</sub> represents a heterocycle directly attached at the 8-position of the pyrazolotriazine ring, R<sub>2</sub> represents alkyl or hydrogen, and Y represents a group NR<sub>x</sub>R<sub>y</sub>, R<sub>x</sub> being chosen from a hydrogen atom or an alkyl group, then R<sub>y</sub> is different from H or from an alkyl, alkanoyl, carbamoyl or N-alkyl-carbamoyl group;
- when NR<sub>x</sub>R<sub>y</sub>, in formula (Ib), represents an NH<sub>2</sub> group or a group NH(C<sub>1</sub>-C<sub>4</sub>)alkyl, then R<sub>4</sub> is different from a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl group;
- when simultaneously, in formula (Ib), Y represents NHCH<sub>3</sub>, R<sub>2</sub> represents CH<sub>3</sub> and R<sub>4</sub> represents a hydrogen atom, then R<sub>3</sub> is different from benzyl, phenyl, naphthyl, (2-naphthyl)methyl, pentyl, benzoyl, propyne, penten-1-yl, 2-furyl, 2-thienyl, 2-chlorophenyl, 3-acetylphenyl, 3-nitrophenyl, 3-trifluoromethylphenyl, 2-benzo[b]furyl, 2-benzo-[b]thienyl, 2-chlorobenzoyl, 2-methylaminobenzoyl, 4-methoxybenzoyl, 3-trifluoromethylbenzoyl,

- furfuryl, (3-furyl)methyl, (2-thienyl)methyl,  
2-hydroxypropyl, iodo, nitro, acetylamino,  
benzoylamino and diethylaminocarbonyl;
- 5 - when simultaneously, in formula (Ib), Y represents  
NHCH<sub>3</sub>, R<sub>4</sub> represents H and R<sub>3</sub> represents benzoyl or  
iodo, then R<sub>2</sub> is different from methyl, ethyl,  
n-propyl, n-butyl, thiomethyl, methoxymethyl,  
phenyl and 2-furyl;
- 10 - when simultaneously, in formula (Ib), Y represents  
NHCH<sub>3</sub>, R<sub>4</sub> represents H and R<sub>3</sub> represents benzyl or  
2-methoxybenzyl, then R<sub>2</sub> is different from methyl,  
n-propyl and trifluoromethyl;
- 15 - when simultaneously, in formula (Ib), Y represents  
a methylamino, benzylamino, pyrrolidinyl,  
dimethylamino or 1-piperazinyl group and R<sub>2</sub>  
represents methyl or n-propyl, then R<sub>3</sub> is  
different from iodo and benzoyl;
- 20 - when R<sub>4</sub>, in formula (Ib), is a 2-furyl group, then  
R<sub>3</sub> is different from a hydrogen atom or from a  
(C<sub>1</sub>-C<sub>4</sub>)alkyl group;
- when simultaneously, in formulae (Ia) and (Ib), R<sub>1</sub>  
is a hydrogen atom with R<sub>2</sub> chosen from CH<sub>3</sub>, C<sub>2</sub>H<sub>5</sub> or  
C<sub>6</sub>H<sub>5</sub>, R<sub>3</sub> is chosen from H, C<sub>6</sub>H<sub>5</sub>, (m)CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub>, CN,  
COOEt, Cl, I or Br, and R<sub>4</sub> represents H, C<sub>6</sub>H<sub>5</sub>,  
25 (o)CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub> or (p)CH<sub>3</sub>OC<sub>6</sub>H<sub>4</sub>, then Y is different from  
H, OH, CH<sub>3</sub>, C<sub>2</sub>H<sub>5</sub>, C<sub>6</sub>H<sub>5</sub>, n-C<sub>3</sub>H<sub>7</sub>, iso-C<sub>3</sub>H<sub>7</sub>, SH, SCH<sub>3</sub>,  
NH(n-C<sub>4</sub>H<sub>9</sub>) or N(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub> and X is different from O;
- 30 - when simultaneously, in formula (Ib), R<sub>1</sub>  
represents H, R<sub>3</sub> represents Br or H, and R<sub>2</sub> is  
chosen from H, CH<sub>3</sub> or SCH<sub>3</sub> with R<sub>4</sub> being C<sub>6</sub>H<sub>5</sub> or H,  
then Y is different from SCH<sub>3</sub>, NH(n-Pr), NH(n-Bu),  
N(Et)<sub>2</sub>, piperidyl, OH, SH, O(i-Pr), CH<sub>3</sub>, SEt, OCH<sub>3</sub>  
and O(n-Pr);
- 35 - when simultaneously, in formula (Ib), R<sub>2</sub>  
represents CF<sub>3</sub>, CH<sub>3</sub>OCH<sub>2</sub>-, Ph, Et, n-Pr or CH<sub>3</sub>, Y  
represents NHCH<sub>3</sub>, N(CH<sub>3</sub>)<sub>2</sub> or N(CH<sub>3</sub>)Ph, and R<sub>4</sub> = H or  
CH<sub>3</sub>, then R<sub>3</sub> is different from  $\beta$ -D-glycero-pento-  
furan-3'-ulos-1'-yl, 2'-deoxy- $\beta$ -D-ribofuranosyl,

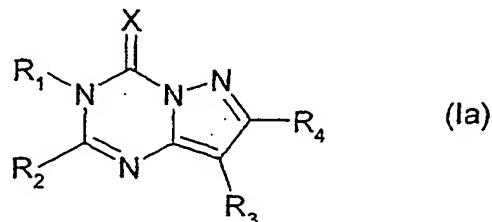
2'-deoxy- $\beta$ -D-xylofuranosyl, 2'-deoxy- $\beta$ -D-ribofuranosyl-3',5'-bis(dibenzyl phosphate), cyclic benzyl 2'-deoxy- $\beta$ -D-xylofuranosyl-3',5'-phosphate, 2'-deoxy- $\beta$ -D-ribofuranosyl-3',5'-bisphosphate and cyclic 2'-deoxy- $\beta$ -D-xylofuranosyl-3',5'-phosphate,  
5 and with the proviso that the compound does not correspond to the following formulae:



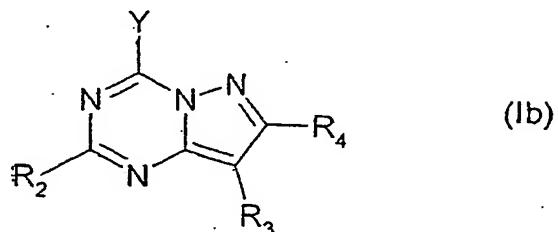
10 2. A compound as claimed in claim 1, corresponding to formula (I), characterized in that A is a carbon atom, and B and D are nitrogen atoms, the 6-membered heterocycle thus formed being a triazine, or A represents a

nitrogen atom and B and C represent carbon atoms, the 6-membered heterocycle thus formed being a pyridazine.

3. A compound as claimed in either one of claims 1  
5 and 2, corresponding to formula (Ia),



or to formula (Ib),



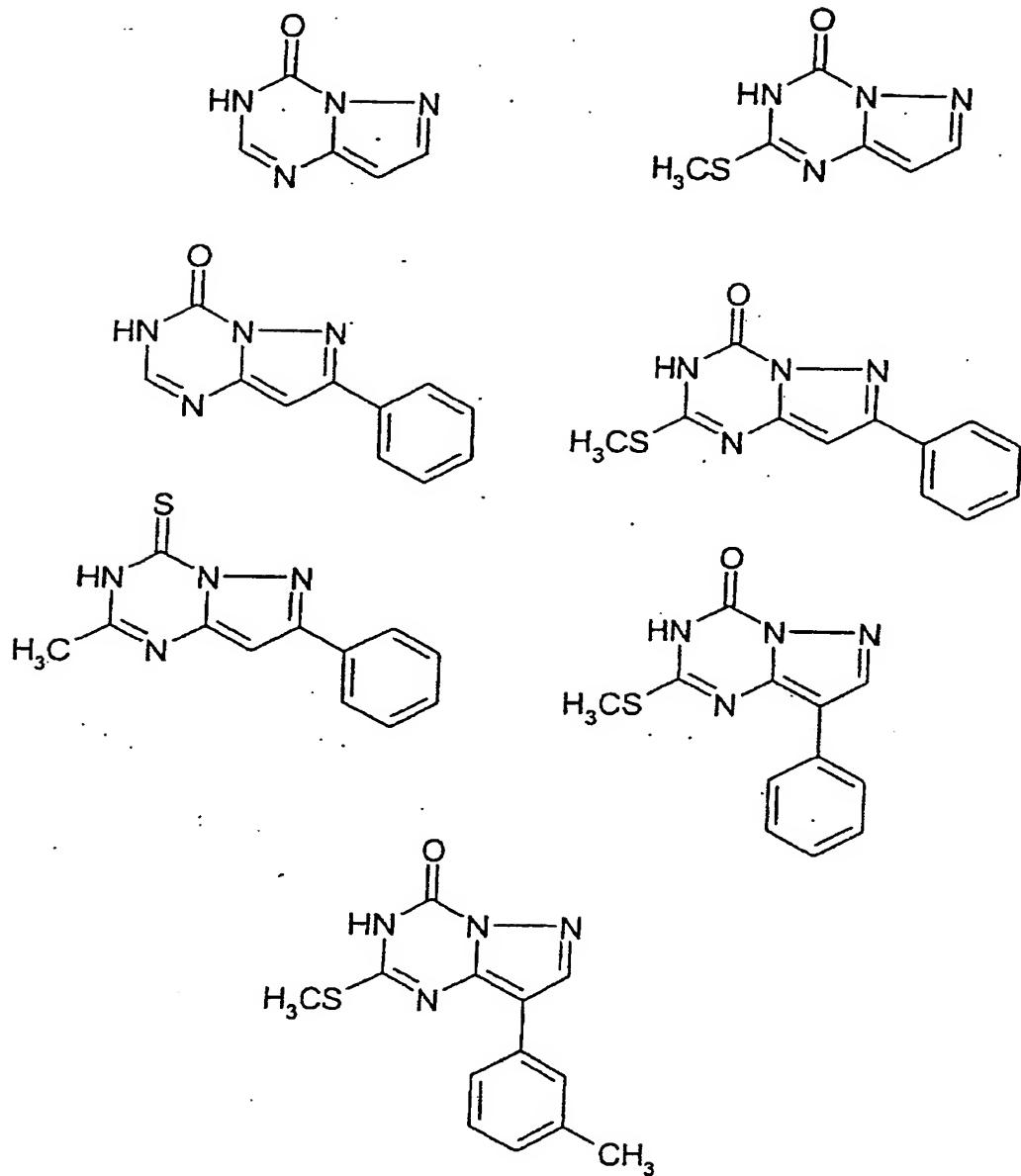
10 characterized in that R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, X and Y are as defined in claim 1 and  
R<sub>4</sub> represents:

- either a hydrogen atom, a (C<sub>1</sub>-C<sub>12</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, (C<sub>6</sub>-C<sub>18</sub>)aryl, (C<sub>6</sub>-C<sub>18</sub>)aryl-(C<sub>1</sub>-C<sub>4</sub>)alkyl or (C<sub>1</sub>-C<sub>12</sub>)alkyl(C<sub>6</sub>-C<sub>18</sub>)aryl group, or  
15 an aromatic or nonaromatic (C<sub>5</sub>-C<sub>18</sub>)heterocycle containing 1 to 3 hetero atoms, in which one or more groups -CH<sub>2</sub>- can be optionally replaced with -O-, -S-, -S(O)-, -S(O)<sub>2</sub>- or -NH-, and can be optionally substituted with one or more radicals chosen from (C<sub>1</sub>-C<sub>6</sub>)alkyl, hydroxyl, oxo, halogen, cyano, nitro and alkoxy radicals,
- or a group NR'R'' or NHCOR'R'', R' and R'', independently of one another, being chosen from a hydrogen atom, a (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl or (C<sub>6</sub>-C<sub>12</sub>)aryl group, and an aromatic or nonaromatic (C<sub>5</sub>-C<sub>12</sub>)heterocycle containing from 1 to 3 hetero atoms, it being possible for said formulae (Ia) and (Ib) to be, with respect to one another,

- tautomeric forms according to the definition of R<sub>1</sub>, of X and of Y, with the proviso that:
- when Y, in formula (Ib), represents OR<sub>x</sub>, then R<sub>x</sub> is necessarily different from aryl and aralkyl;
  - 5        - when simultaneously, in formula (Ib), Y represents NR<sub>x</sub>R<sub>y</sub> and R<sub>x</sub> represents H, then R<sub>y</sub> is necessarily different from aryl and aralkyl;
  - 10      - when Y, in formula (Ib), represents a group NR<sub>x</sub>R<sub>y</sub> in which at least one of the groups R<sub>x</sub> or R<sub>y</sub> is chosen from optionally substituted phenyl or pyridyl groups, then R<sub>3</sub> is different from a (C<sub>1</sub>-C<sub>10</sub>) alkyl, (C<sub>2</sub>-C<sub>10</sub>) alkenyl, (C<sub>2</sub>-C<sub>10</sub>) alkynyl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl and (C<sub>3</sub>-C<sub>6</sub>) cycloalkyl(C<sub>1</sub>-C<sub>4</sub>) alkyl group, it being possible for the latter to be optionally substituted;
  - 15      - when R<sub>3</sub>, in formula (Ib), represents an optionally substituted phenyl or pyridyl group, then Y is different from: NHCH(CH<sub>2</sub>CH<sub>2</sub>OMe)(CH<sub>2</sub>OMe), NHCH(Et)<sub>2</sub>, 2-ethylpiperid-1-yl, cyclobutylamino, N(Me)CH<sub>2</sub>CH=CH<sub>2</sub>, N(Et)CH<sub>2</sub>CH=CH<sub>2</sub>, N(Me)CH<sub>2</sub>cPr, N(Et)CH<sub>2</sub>cPr, N(Pr)CH<sub>2</sub>cPr, N(Me)Pr, N(Me)Et, N(Me)Bu, N(Me)propargyl, N(Et)propargyl, NHCH(CH<sub>3</sub>)CH(CH<sub>3</sub>)CH<sub>3</sub>, N(CH<sub>2</sub>CH<sub>2</sub>OMe)CH<sub>2</sub>CH=CH<sub>2</sub>, N(CH<sub>2</sub>CH<sub>2</sub>OMe)Me, N(CH<sub>2</sub>CH<sub>2</sub>OMe)Et, N(CH<sub>2</sub>CH<sub>2</sub>OMe)Pr, 20      N(CH<sub>2</sub>CH<sub>2</sub>OMe)CH<sub>2</sub>cPr, NHCH(CH<sub>3</sub>)CH<sub>2</sub>CH<sub>3</sub>, NHCH(cPr)<sub>2</sub>, N(CH<sub>2</sub>CH<sub>2</sub>OMe)<sub>2</sub>, N(Et)<sub>2</sub> and cyclobutylamino;
  - 25      - when simultaneously, in formula (Ib), Y represents a methylamino, benzylamino, pyrrolidinyl, dimethylamino or 1-piperazinyl group and R<sub>2</sub> represents methyl or n-propyl, then R<sub>3</sub> is different from iodo and benzoyl;
  - 30      - when R<sub>3</sub>, in formula (Ib), represents a phenyl, naphthyl, pyridyl, pyrimidyl, triazinyl, furanyl, thienyl, benzothienyl, benzofuranyl, 2,3-dihydrobenzofuranyl, 2,3-dihydrobenzothienyl, indanyl, 1,2-benzopyran, 3,4-dihydro-1,2-benzopyran or tetralinyl group, then R<sub>1</sub> in formula (Ia) is different from H;
  - 35

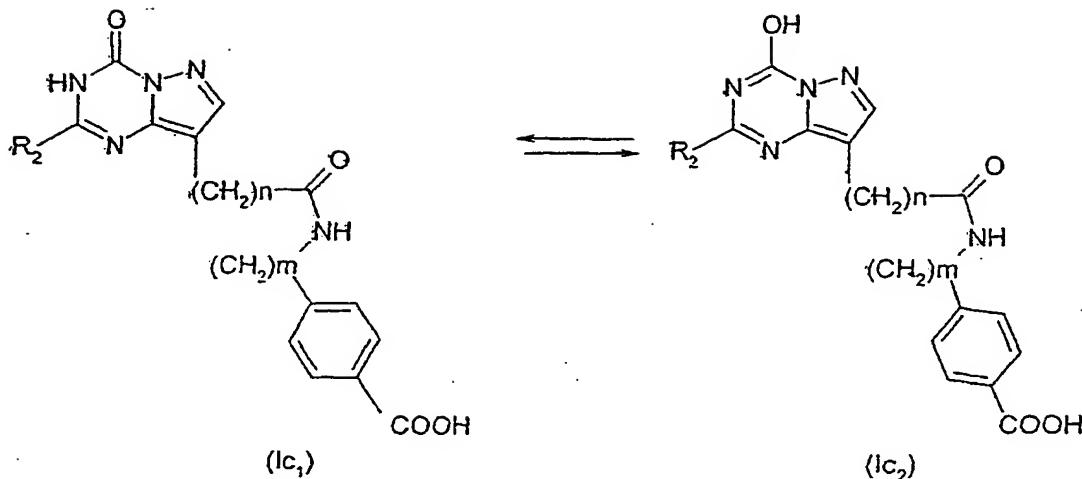
- when simultaneously, in formula (Ib), R<sub>3</sub> represents a heterocycle directly attached at the 8-position of the pyrazolotriazine ring, R<sub>2</sub> represents alkyl or hydrogen, and Y represents a group NR<sub>x</sub>R<sub>y</sub>, R<sub>x</sub> being chosen from a hydrogen atom or an alkyl group, then R<sub>y</sub> is different from H or from an alkyl, alkanoyl, carbamoyl or N-alkyl-carbamoyl group;
- when NR<sub>x</sub>R<sub>y</sub>, in formula (Ib), represents an NH<sub>2</sub> group or a group NH(C<sub>1</sub>-C<sub>4</sub>)alkyl, then R<sub>4</sub> is different from a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl group;
- when simultaneously, in formula (Ib), Y represents NHCH<sub>3</sub>, R<sub>2</sub> represents CH<sub>3</sub> and R<sub>4</sub> represents a hydrogen atom, then R<sub>3</sub> is different from benzyl, phenyl, naphthyl, (2-naphthyl)methyl, pentyl, benzoyl, propyne, penten-1-yl, 2-furyl, 2-thienyl, 2-chlorophenyl, 3-acetylphenyl, 3-nitrophenyl, 3-trifluoromethylphenyl, 2-benzo[b]furyl, 2-benzo-[b]thienyl, 2-chlorobenzoyl, 2-methylaminobenzoyl, 4-methoxybenzoyl, 3-trifluoromethylbenzoyl, furfuryl, (3-furyl)methyl, (2-thienyl)methyl, 2-hydroxypropyl, iodo, nitro, acetylamino, benzoylamino and diethylaminocarbonyl;
- when simultaneously, in formula (Ib), Y represents NHCH<sub>3</sub>, R<sub>4</sub> represents H and R<sub>3</sub> represents benzoyl or iodo, then R<sub>2</sub> is different from methyl, ethyl, n-propyl, n-butyl, thiomethyl, methoxymethyl, phenyl and 2-furyl;
- when simultaneously, in formula (Ib), Y represents NHCH<sub>3</sub>, R<sub>4</sub> represents H and R<sub>3</sub> represents benzyl or 2-methoxybenzyl, then R<sub>2</sub> is different from methyl, n-propyl and trifluoromethyl;
- when simultaneously, in formula (Ib), Y represents a methylamino, benzylamino, pyrrolidinyl, dimethylamino or 1-piperazinyl group and R<sub>2</sub> represents methyl or n-propyl, then R<sub>3</sub> is different from iodo and benzoyl;

- when  $R_4$ , in formula (Ib), is a 2-furyl group, then  $R_3$  is different from a hydrogen atom or from a ( $C_1-C_4$ ) alkyl group;
- when simultaneously, in formulae (Ia) and (Ib),  $R_1$  is a hydrogen atom with  $R_2$  chosen from  $CH_3$ ,  $C_2H_5$  or  $C_6H_5$ ,  $R_3$  is chosen from H,  $C_6H_5$ , (m) $CH_3C_6H_4$ , CN, COOEt, Cl, I or Br, and  $R_4$  represents H,  $C_6H_5$ , (o) $CH_3C_6H_4$  or (p) $CH_3OC_6H_4$ , then Y is different from H, OH,  $CH_3$ ,  $C_2H_5$ ,  $C_6H_5$ ,  $n-C_3H_7$ , iso- $C_3H_7$ , SH,  $SCH_3$ ,  $NH(n-C_4H_9)$  or  $N(C_2H_5)_2$  and X is different from O;
- when simultaneously, in formula (Ib),  $R_1$  represents H,  $R_3$  represents Br or H, and  $R_2$  is chosen from H,  $CH_3$  or  $SCH_3$  with  $R_4$  being  $C_6H_5$  or H, then Y is different from  $SCH_3$ ,  $NH(n-Pr)$ ,  $NH(n-Bu)$ ,  $N(Et)_2$ , piperidyl, OH, SH, O(*i*-Pr),  $CH_3$ , SET,  $OCH_3$  and O(*n*-Pr);
- when simultaneously, in formula (Ib),  $R_2$  represents  $CF_3$ ,  $CH_3OCH_2-$ , Ph, Et, *n*-Pr or  $CH_3$ , Y represents  $NHCH_3$ ,  $N(CH_3)_2$  or  $N(CH_3)Ph$ , and  $R_4 = H$  or  $CH_3$ , then  $R_3$  is different from  $\beta$ -D-glycero-pento-furan-3'-ulos-1'-yl, 2'-deoxy- $\beta$ -D-ribofuranosyl, 2'-deoxy- $\beta$ -D-xylofuranosyl, 2'-deoxy- $\beta$ -D-ribo-furanosyl-3',5'-bis(dibenzyl phosphate), cyclic benzyl 2'-deoxy- $\beta$ -D-xylofuranosyl-3',5'-phosphate, 2'-deoxy- $\beta$ -D-ribofuranosyl-3',5'-bisphosphate and cyclic 2'-deoxy- $\beta$ -D-xylofuranosyl-3',5'-phosphate, and with the proviso that the compound does not correspond to the following formulae:



4. A compound as claimed in any one of claims 1 to 3, characterized in that:
- 5 R<sub>1</sub> represents either a hydrogen atom or a (C<sub>1</sub>-C<sub>12</sub>)alkyl group,
- R<sub>2</sub> represents either a hydrogen or sulfur atom, or a (C<sub>1</sub>-C<sub>6</sub>)alkyl group, or a trifluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl group, or an amino group, or a group SR<sub>x</sub> where R<sub>x</sub> is as defined above,
- 10 R<sub>3</sub> represents either a hydrogen atom, or a halogen atom, or a nitro, (C<sub>1</sub>-C<sub>6</sub>)alkyl, trifluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl,

- acyl,  $(C_2-C_6)$  alkenyl,  $(C_2-C_6)$  alkynyl,  $(C_6-C_{18})$  aryl,  
 $(CH_2)_nCONH-(CH_2)_maryl$ ,  $(CH_2)_nSO_2NH-(CH_2)_maryl$  or  
 $(CH_2)_nCONH-CH(COOH)-(CH_2)_paryl$  group with  $n = 1$  to  $4$ ,  
 $m = 0$  to  $3$  and  $p = 0$  to  $2$ , or a group  $NR'R''$  or  
5  $NHCOR'R''$ ,  $R'$  and  $R''$ , independently of one another,  
being chosen from a hydrogen atom,  $(C_1-C_6)$  alkyl,  
 $(C_3-C_6)$  cycloalkyl and  $(C_6-C_{12})$  aryl groups, and aromatic  
or nonaromatic  $(C_5-C_{12})$  heterocycles containing  $1$  to  $3$   
hetero atoms,
- 10  $R_4$  represents a hydrogen atom,  
 $X$  represents an oxygen or sulfur atom, and  
 $Y$  represents either a halogen atom, or a  $(C_1-C_6)$  alkyl,  
 $(C_2-C_6)$  alkynyl, phenyl,  $OR_x$ ,  $SR_x$  or  $NR_xR_y$  group in which  
 $R_x$  and  $R_y$  are as defined above.
- 15
5. A compound as claimed in any one of claims 1 to 4,  
characterized in that:
- 18       $R_1$  represents a hydrogen atom or a methyl group,  
 $R_2$  represents a hydrogen or sulfur atom, or a methyl,  
20 propyl, trifluoromethyl, amino or thiomethyl group,  
 $R_3$  represents an iodine atom, or an amino, nitro, acyl-  
amino, benzyl, 2-methoxybenzyl, furfuryl,  
3-furylmethyl, 2-thienylmethyl, 3-thienylmethyl,  
2-pyridylmethyl, 2-chlorobenzoyl  $-CH_2CH_2COOH$ ,
- 25  $CH_2CH_2COONa$ ,  $C_6H_4COOH$ ,  $C_6H_4COONa$ ,  $C_6H_4COOC_2H_5$ , ethyl  
benzoate, sodium benzoate,  $CH_2=CHCOOC_2H_5$ , propyn-1-yl,  
 $(CH_2)_2CONH-C_6H_4COONa$ ,  $(CH_2)CONH-(CH_2)_2$ -indole,  $(CH_2)_2CONH-$   
 $CH(COOH)(CH_2)$  indole,  $(CH_2)CONH-(CH_2)_2C_6H_4OH$  or  $(CH_2)_2CONH-$   
 $CH_2C_6H_4OH$  group,
- 30  $X$  represents an oxygen atom, and  
 $Y$  represents an OH, SH,  $N$ -methyl- $N$ -phenylamino  
 $(NPhCH_3)$ ,  $N$ -methyl- $N$ -(4-acylaminophenyl)amino or  
triazole group.
- 35 6. A compound as claimed in any one of claims 1 to 5,  
characterized in that it corresponds to formulae  $(Ic_1)$   
and  $(Ic_2)$



in which n = 1 to 4, and m = 0 to 2, preferably R<sub>2</sub> represents a hydrogen atom, n = 2 and m = 0, and also its prodrugs, its bioprecursors and its

5 pharmaceutically acceptable base or acid addition salts.

7. A compound as claimed in claim 6, characterized in that R<sub>2</sub> represents a hydrogen atom, n = 1 to 2 and m = 10 0.

8. Sodium 4-[[1-(oxo)-3-(4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)propyl]amino]benzoate.

15 9. A compound as claimed in any one of claims 1 to 5, characterized in that Y represents a methylamino or cyclopropylamino group, R<sub>2</sub> represents an iodine or sulfur atom, or a methyl, propyl, cyclopropyl, perfluoroethyl, perfluoropropyl, trifluoromethyl, allyl, 20 trifluoromethylvinyl, vinyl, 1-propynyl or ethynyl group, R<sub>3</sub> is chosen from an iodine atom, and a benzyl, 2-methoxybenzyl, 2-fluorobenzyl, 2-bromobenzoyl, furfuryl, 2-furylcarbonyl, 3-furylmethyl, 2-thienylmethyl, 3-thienylmethyl, 2-pyridylmethyl, 2-chlorobenzoyl, cyclopentyl or cyclohexyl group, and R<sub>4</sub> 25 represents a hydrogen or fluorine atom.

10. A compound as claimed in claim 3, characterized in that X represents an oxygen atom, Y represents an OH or NH<sub>2</sub> group, R<sub>1</sub> represents a hydrogen atom or optionally an alkyl group having from 1 to 3 carbons, R<sub>3</sub> represents a hydrogen atom or a substituted benzyl group, and R<sub>4</sub> represents a hydrogen or fluorine atom.

11. A compound as claimed in any one of claims 1 to 10, characterized in that it is chosen from the group consisting of the following compounds:

5 8-Iodo-4-(N-methyl-N-phenylamino)pyrazolo[1,5-a]-1,3,5-triazine.

10 8-Iodo-4-[N-methyl-N-(4-nitrophenyl)amino]pyrazolo-[1,5-a]-1,3,5-triazine.

15 8-Iodo-4-(triazol-4-yl)pyrazolo[1,5-a]-1,3,5-triazine.

8-Acetamido-2-methylpyrazolo[1,5-a]-1,3,5-triazin-4-one.

Methyl 4-[ (hydroxy) [4-(N-methyl-N-phenylamino)-

20 pyrazolo[1,5-a]-1,3,5-triazin-8-yl]methyl]benzoate.

8-[(2-Chlorophenyl) (hydroxy)methyl]-4-(N-methyl-N-

phenylamino)-2-n-propylpyrazolo[1,5-a]-1,3,5-triazine.

8-(2-Chlorophenyl)-4-(N-methyl-N-phenylamino)-2-n-propylpyrazolo[1,5-a]-1,3,5-triazine.

8-(2-Chlorophenyl)-4-(N-methylamino)-2-n-propyl-

25 pyrazolo[1,5-a]-1,3,5-triazine.

Ethyl 3-[4-(N-methyl-N-phenylamino)pyrazolo[1,5-a]-

1,3,5-triazin-8-yl]acrylate.

Ethyl 3-[4-(N-methyl-N-phenylamino)pyrazolo[1,5-a]-

1,3,5-triazin-8-yl]propionate.

30 3-[4-(N-Methyl-N-phenylamino)pyrazolo[1,5-a]-1,3,5-

triazin-8-yl]propionic acid.

Methyl 4-[[1-oxo-3-[4-(N-methyl-N-phenylamino)pyrazolo-

[1,5-a]-1,3,5-triazin-8-yl]propyl]amino]benzoate.

4-(Cyclopropylamino)-8-(2-fluorobenzoyl)-2-methyl-

35 pyrazolo[1,5-a]-1,3,5-triazine.

Ethyl 4-(N-methyl-N-phenylamino)pyrazolo[1,5-a]-1,3,5-triazine-8-carboxylate.

tert-Butyl 3-[4-(N-methyl-N-phenylamino)pyrazolo-

[1,5-*a*]-1,3,5-triazin-8-yl]acrylate.  
tert-Butyl 3-[4-(*N*-methyl-*N*-phenylamino)pyrazolo-[1,5-*a*]-1,3,5-triazin-8-yl]propionate  
4-(*N*-Methyl-*N*-phenylamino)-8-phenylpyrazolo[1,5-*a*]-1,3,5-triazine.  
5 1,3,5-triazine.  
4-(*N*-Methyl-*N*-phenylamino)-8-( $\beta$ -D-glycero-pentofuran-3'-ulos-1'-yl)pyrazolo[1,5-*a*]-1,3,5-triazine.  
8-[(3-Furyl) (hydroxy)methyl]-4-(*N*-methyl-*N*-phenylamino)-2-*n*-propylpyrazolo[1,5-*a*]-1,3,5-triazine.  
10 8-(3-Furylmethyl)-2-*n*-propyl-4-(*N*-methyl-*N*-phenylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.  
2-Trifluoromethyl-8-(3-furylmethyl)-4-(cyclopropylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.  
2-Thiomethyl-8-(3-furylmethyl)-4-(*N*-methylamino)-15 pyrazolo[1,5-*a*]-1,3,5-triazine.  
8-(3-Furylmethyl)-4-(*N*-methylamino)-2-*n*-propylpyrazolo[1,5-*a*]-1,3,5-triazine.  
2-Trifluoromethyl-8-cyclopentyl-4-(*N*-methylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.  
20 2-Pentafluoroethyl-8-(2-methoxybenzyl)-4-(*N*-methylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.  
4-(*N*-Cyclopropylamino)-2-trifluoromethyl-8-(2-methoxybenzyl)pyrazolo[1,5-*a*]-1,3,5-triazine.  
4-(*N*-Cyclopropylamino)-8-(2-methoxybenzyl)-2-*n*-propylpyrazolo[1,5-*a*]-1,3,5-triazine.  
25 2-Iodo-8-(2-methoxybenzyl)-4-(*N*-methylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.  
2-Bromo-8-(2-methoxybenzyl)-4-(*N*-methylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.  
30 8-[(Hydroxy) (2-thienyl)methyl]-4-(*N*-methyl-*N*-phenylamino)-2-*n*-propylpyrazolo[1,5-*a*]-1,3,5-triazine.  
8-(2-Chlorobenzoyl)-2-trifluoromethyl-4-(*N*-methylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.  
35 8-(2-Chlorobenzoyl)-2-pentafluoroethyl-4-(*N*-methylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.  
8-(2-Chlorobenzoyl)-2-trifluoromethyl-4-(*N*-cyclopropylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.  
4-(*N*-Methyl-*N*-phenylamino)-2-*n*-propyl-8-(2-thienyl-

methyl)pyrazolo[1,5-a]-1,3,5-triazine.

4-(*N*-Methylamino)-2-*n*-propyl-8-[(2-thienyl)methyl]-pyrazolo[1,5-a]-1,3,5-triazine.

4-(*N*-Methylamino)-2-trifluoromethyl-8-[(2-thienyl)-methyl]pyrazolo[1,5-a]-1,3,5-triazine.

5      4-(*N*-Cyclopropylamino)-2-trifluoromethyl-8-[(2-thienyl)methyl]pyrazolo[1,5-a]-1,3,5-triazine.

10     *N*-[2-(3,4-Dihydroxyphenyl)ethyl]-3-[4-(*N*-methyl-*N*-phenylamino)pyrazolo[1,5-a]-1,3,5-triazin-8-yl]-propionamide.

15     3-[4-(*N*-Methyl-*N*-phenylamino)pyrazolo[1,5-a]-1,3,5-triazin-8-yl]-*N*-[3-(2-oxopyrrolidin-1-yl)propyl]-propionamide.

20     *N*-[2-Hydroxy-2-(3,4-dihydroxyphenyl)ethyl]-3-[4-(*N*-methyl-*N*-phenylamino)pyrazolo[1,5-a]-1,3,5-triazin-8-yl]propionamide.

25     3-(4-Oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)propionic acid.

Ethyl        3-[4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl]-acrylate.

Sodium        4-[(hydroxy)[4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl]methyl]benzoate.

Sodium        4-[[1-(oxo)-4-3-(oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)propyl]amino]benzoate.

25     Sodium    4-[2-(4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)-ethylsulfonylamino]benzoate.

Sodium        4-[1-oxo-3-(2-amino-4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)propylamino]benzoate.

Sodium        4-[1-oxo-3-(2-*n*-propyl-4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)propylamino]benzoate.

30     Sodium    4-[1-oxo-3-(2-trifluoromethyl-4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)propylamino]benzoate.

Sodium        4-[1-oxo-3-(2-aminoo-4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)propanamide.

35     *N*-[2-(Indol-3-yl)ethyl]-3-(4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)propanamide.

*N*-[1-(Carboxyl)-2-(indol-3-yl)ethyl]-3-(4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)propanamide.

- N*-[2-(4-Hydroxyphenyl)ethyl]-3-(4-oxopyrazolo[1,5-*a*]-1,3,5-triazin-8-yl)propanamide.
- N*-[2-(4-Hydroxyphenyl)ethyl]-3-(2-amino-4-oxopyrazolo-[1,5-*a*]-1,3,5-triazin-8-yl)propanamide.
- 5   *N*-[2-(4-Hydroxyphenyl)ethyl]-3-(2-trifluoromethyl-4-oxopyrazolo[1,5-*a*]-1,3,5-triazin-8-yl)propanamide.
- N*-[1-(Carboxyl)-2-(4-hydroxyphenyl)ethyl]-3-(4-oxo-pyrazolo[1,5-*a*]-1,3,5-triazin-8-yl)propanamide.
- 10   4-(*N*-Methyl-*N*-phenylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.
- 2- (4-Methylbenzyl)-8-(2-oxohept-3-yl)pyrazolo[1,5-*a*]-1,3,5-triazin-4-one.
- 8-(2-Hydroxy-6-phenylhex-3-yl)-2-(3,4-dimethoxybenzyl)pyrazolo[1,5-*a*]-1,3,5-triazin-4-one.
- 15   Erythro-8-(2-hydroxy-3-nonyl)pyrazolo[1,5-*a*]-1,3,5-triazin-4-one.
- Erythro-4-amino-8-(2-hydroxy-3-nonyl)pyrazolo[1,5-*a*]-1,3,5-triazine.
- Sodium      4-[[3-(1-methyl-4-oxopyrazolo[1,5-*a*]-1,3,5-triazin-8-yl)-1-(oxo)propyl]amino]benzoate.
- 20   8-Benzoyl-2-cyclopropylpyrazolo[1,5-*a*]-1,3,5-triazin-4-one.
- N*-[2-(3,4-Dihydroxyphenyl)ethyl]-3-(4-oxopyrazolo-[1,5-*a*]-1,3,5-triazin-8-yl)propionamide.
- 25   3-[4-Oxopyrazolo[1,5-*a*]-1,3,5-triazin-8-yl]-*N*-[3-(2-oxopyrrolidin-1-yl)propyl]propionamide.
- N*-[2-Hydroxy-2-(3,4-dihydroxyphenyl)ethyl]-3-[4-oxo-pyrazolo[1,5-*a*]-1,3,5-triazin-8-yl]propionamide.
- 30   8-(2'-Deoxy- $\beta$ -D-ribofuranosyl)-4-(*N*-methyl-*N*-phenylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.
- 8-(2'-Deoxy- $\beta$ -D-ribofuranosyl)-4-[*N*-methyl-*N*-(4-nitro-phenylamino)]pyrazolo[1,5-*a*]-1,3,5-triazine.
- 35   8-(2'-Deoxy- $\beta$ -D-xylofuranosyl)-4-(*N*-methyl-*N*-phenylamino)pyrazolo[1,5-*a*]-1,3,5-triazine.
- 4-Amino-8-(2'-deoxy- $\beta$ -D-ribofuranosyl)pyrazolo[1,5-*a*]-1,3,5-triazine.

- 8-(2'-Deoxy- $\beta$ -D-ribofuranosyl)pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- 4-Amino-8-(2'-deoxy- $\beta$ -D-xylofuranosyl)pyrazolo[1,5-a]-1,3,5-triazine.
- 5 8-(2'-Deoxy- $\beta$ -D-xylofuranosyl)pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- 4-Amino-2-fluoro-8-[*trans*-2,*trans*-3-dihydroxy-4-(hydroxymethyl)cyclopent-4-enyl]pyrazolo[1,5-a]-1,3,5-triazine.
- 10 4-Amino-8-[*trans*-2,*trans*-3-dihydroxy-4-(hydroxymethyl)-cyclopent-4-enyl]pyrazolo[1,5-a]-1,3,5-triazine.
- 2-Fluoro-8-[*trans*-2,*trans*-3-dihydroxy-4-(hydroxymethyl)cyclopent-4-enyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- 15 8-[*trans*-2,*trans*-3-dihydroxy-4-(hydroxymethyl)-cyclopent-4-enyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- (1*S*,4*R*)-2-Amino-4-(cyclopropylamino)-8-[4-(hydroxymethyl)cyclopent-2-en-1-yl]pyrazolo[1,5-a]-1,3,5-triazine.
- 20 *cis*-2-Amino-4-(cyclopropylamino)-8-[4-(hydroxymethyl)-cyclopent-2-en-1-yl]pyrazolo[1,5-a]-1,3,5-triazine.
- 4-Amino-7-chloro-8-( $\beta$ -D-ribofuranosyl)pyrazolo[1,5-a]-1,3,5-triazine-3',5'-cyclophosphate.
- bis-(2,2,2-Trifluoroethyl [2-[2-amino-4-(4-methoxyphenylthio)pyrazolo[1,5-a]-1,3,5-triazin-8-yl]ethoxy]-methylphosphonate.
- 4-Amino-8-(3'-deoxy- $\beta$ -D-ribofuranosyl)pyrazolo[1,5-a]-1,3,5-triazine.
- 8-(3'-Deoxy- $\beta$ -D-ribofuranosyl)pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- 30 2-Amino-8-(3'-deoxy- $\beta$ -D-ribofuranosyl)pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- 4-Amino-2-chloro-8-(2'-deoxy- $\beta$ -D-ribofuranosyl)-pyrazolo[1,5-a]-1,3,5-triazine.
- 35 *cis*-2-Amino-4-(cyclopropylamino)-8-[2-(hydroxymethyl)-1,3-dioxolan-4-yl]pyrazolo[1,5-a]-1,3,5-triazine.
- 4-Amino-8-(2',3'-dideoxy-2'-fluoro- $\beta$ -D-ribofuranosyl)-pyrazolo[1,5-a]-1,3,5-triazine.

- 4-Amino-8-(2',3'-dideoxy-2'-fluoroarabinosyl)pyrazolo-[1,5-a]-1,3,5-triazine.
- 2-Amino-8-[4-acetyloxy-3-(acetyloxymethyl)butyl]-pyrazolo[1,5-a]-1,3,5-triazine.
- 5 4-Amino-2-chloro-8-(2'-deoxy-2'-fluoro- $\beta$ -D-ribofuranosyl)pyrazolo[1,5-a]-1,3,5-triazine.
- 4-Amino-8-(2'-deoxy-2'-fluoro- $\beta$ -D-ribofuranosyl)-pyrazolo[1,5-a]-1,3,5-triazine.
- 8-(2'-Deoxy-2'-fluoro- $\beta$ -D-ribofuranosyl)pyrazolo-[1,5-a]-1,3,5-triazin-4-one.
- 10 S-[[4-Amino-8-(5'-deoxy- $\beta$ -D-ribofuranosyl)pyrazolo-[1,5-a]-1,3,5-triazine]-5'-yl]methionine (bioisostere of S-adenosylmethionine).
- 2-Amino-4-[(4-bromo-2-thienyl)methoxy]pyrazolo[1,5-a]-1,3,5-triazine.
- 15 (R)-4-Benzylamino-2-[1-(hydroxymethyl)propylamino]-8-isopropylpyrazolo[1,5-a]-1,3,5-triazine.
- (S)-4-Benzylamino-2-[1-(hydroxymethyl)propylamino]-8-isopropylpyrazolo[1,5-a]-1,3,5-triazine.
- 20 2'-(Butyryl)-4-(N-butyrylamino)-8-( $\beta$ -D-ribofuranosyl)-pyrazolo[1,5-a]-1,3,5-triazine-3',5'-cyclophosphate.
- cis-2,4-Diamino-8-[2-(hydroxymethyl)-1,3-dioxolan-4-yl]pyrazolo[1,5-a]-1,3,5-triazine.
- cis-2-Amino-8-[2-(hydroxymethyl)-1,3-dioxolan-4-yl]-pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- 25 cis-8-[2-(Hydroxymethyl)-1,3-dioxolan-4-yl]pyrazolo-[1,5-a]-1,3,5-triazin-4-one.
- cis-4-Amino-8-[2-(hydroxymethyl)-1,3-dioxolan-4-yl]-pyrazolo[1,5-a]-1,3,5-triazine.
- 30 (1'S,2'R)-2-Amino-8-[(1',2'-bis(hydroxymethyl)cycloprop-1'-yl)methyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- (1'S,2'R)-8-[(1',2'-bis(Hydroxymethyl)cycloprop-1'-yl)-methyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- (1'S,2'R)-4-Amino-8-[(1',2'-bis(hydroxymethyl)cyclo-
- 35 prop-1'-yl)methyl]pyrazolo[1,5-a]-1,3,5-triazine.
- 2-Amino-8-[(2-hydroxyethoxy)methyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.
- 8-[(2-Hydroxyethoxy)methyl]pyrazolo[1,5-a]-1,3,5-

triazin-4-one.

4-Amino-8-[ (2-hydroxyethoxy)methyl]pyrazolo[1,5-a]-1,3,5-triazine.

2-Amino-8-[4-hydroxy-3-(hydroxymethyl)butyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.

4-Amino-8-[4-hydroxy-3-(hydroxymethyl)butyl]pyrazolo[1,5-a]-1,3,5-triazine.

8-[4-Hydroxy-3-(hydroxymethyl)butyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.

10 2-Amino-8-[2-hydroxy-1-(hydroxymethyl)ethoxymethyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.

8-[2-Hydroxy-1-(hydroxymethyl)ethoxymethyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.

4-Amino-8-[2-hydroxy-1-(hydroxymethyl)ethoxymethyl]pyrazolo[1,5-a]-1,3,5-triazine.

2-[ (2-Amino-4-oxopyrazolo[1,5-a]-1,3,5-triazin-8-yl)methoxy]ethyl valinate.

8-(2',3'-Dideoxy- $\beta$ -D-ribofuranosyl)pyrazolo[1,5-a]-1,3,5-triazin-4-one.

20 8-(2',3'-Dideoxy-2',2'-difluoro- $\beta$ -D-ribofuranosyl)pyrazolo[1,5-a]-1,3,5-triazin-4-one.

8-(2'-Deoxy- $\beta$ -D-ribofuranosyl)pyrazolo[1,5-a]-1,3,5-triazin-4-one.

bis(Pivaloyloxyethyl) [2-(4-aminopyrazolo[1,5-a]-1,3,5-triazin-8-yl)ethoxy]methylphosphonate.

Sodium [2-(4-aminopyrazolo[1,5-a]-1,3,5-triazin-8-yl)ethoxy]methylphosphonate.

4-Amino-8-[2-[bis(pivaloyloxyethyl)phosphonyl]-methoxyethyl]pyrazolo[1,5-a]-1,3,5-triazine.

30 cis-8-[2-(Hydroxymethyl)-1,3-oxathiolan-5-yl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.

cis-8-[2-(Hydroxymethyl)-1,3-oxathiolan-5-yl]-2-oxo-pyrazolo[1,5-a]-1,3,5-triazin-4-one.

cis-8-[2-(Hydroxymethyl)-1,3-oxathiolan-5-yl]-2-thioxo-pyrazolo[1,5-a]-1,3,5-triazin-4-one.

35 cis-2-Amino-8-[2-(hydroxymethyl)-1,3-oxathiolan-5-yl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.

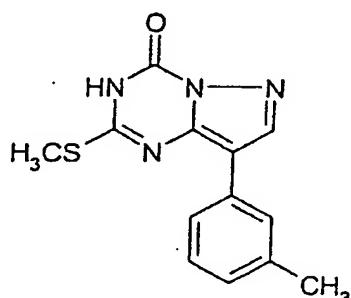
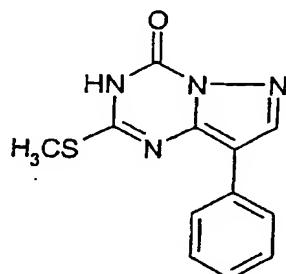
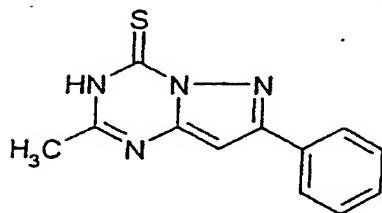
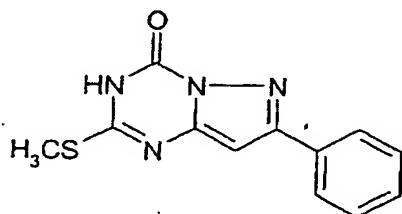
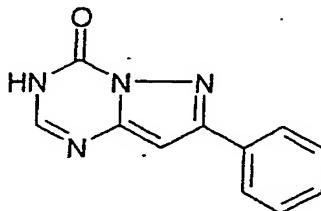
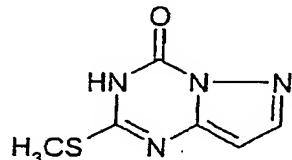
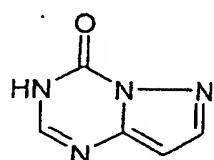
cis-4-Amino-8-[2-(hydroxymethyl)-1,3-oxathiolan-5-yl]-

pyrazolo[1,5-a]-1,3,5-triazine.

8-[(3R,4R)-3-Hydroxy-4-(hydroxymethyl)pyrrolidin-1-yl]-methyl]pyrazolo[1,5-a]-1,3,5-triazin-4-one.

5 4-Amino-8-[(3R,4R)-3-hydroxy-4-(hydroxymethyl)-pyrrolidin-1-yl)methyl]pyrazolo[1,5-a]-1,3,5-triazine.

12. The use of the compounds as claimed in any one of claims 1 to 11, including the compounds corresponding to the following formulae:



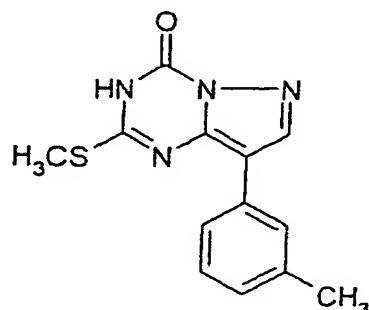
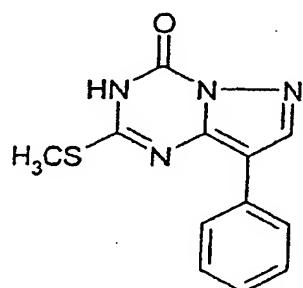
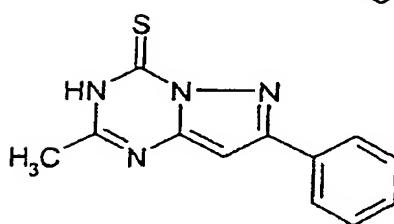
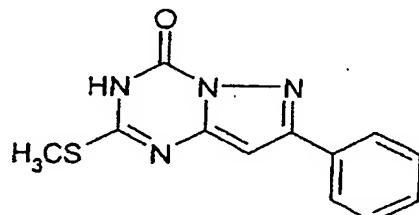
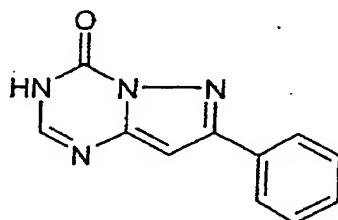
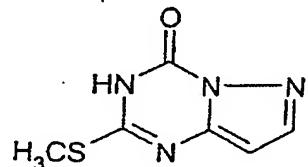
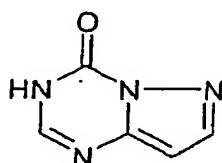
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as a medicinal product intended to treat or prevent pathologies involving neuronal degeneration, in particular aging, senility, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis,

15 multiple scleroses, Huntington's disease, Down's syndrome, cerebral strokes, peripheral neuropathies,

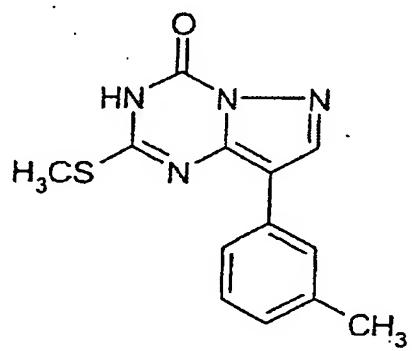
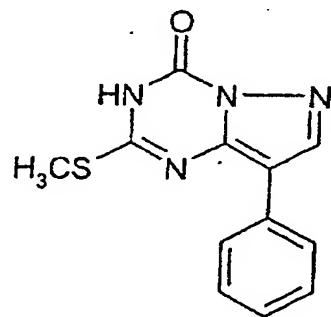
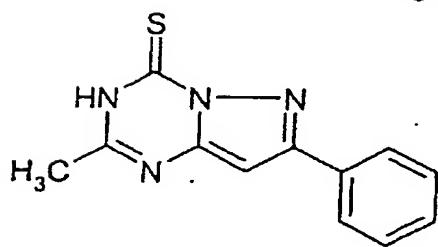
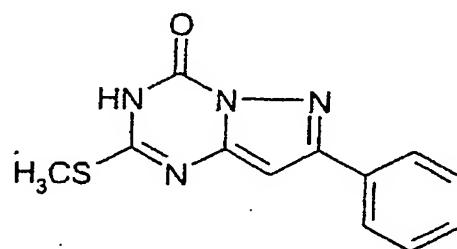
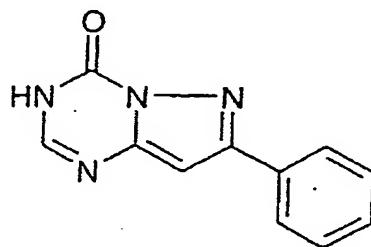
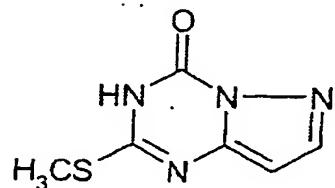
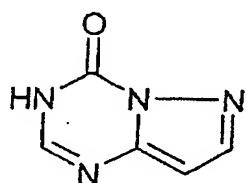
retinopathies (in particular pigmentary retinitis), prion diseases (in particular spongiform encephalopathies of the Creutzfeldt-Jakob disease type), traumas (accidents to the vertebral column, 5 compression of the optic nerve subsequent to a glaucoma, etc.), or else neuronal disorders caused by the action of chemical products and nerve lesions, comprising the administration to this mammal of an effective amount of a compound as claimed in any one of 10 claims 1 to 11.

13. The use of a compound as claimed in any one of claims 1 to 11, including the compounds corresponding to the following formulae:



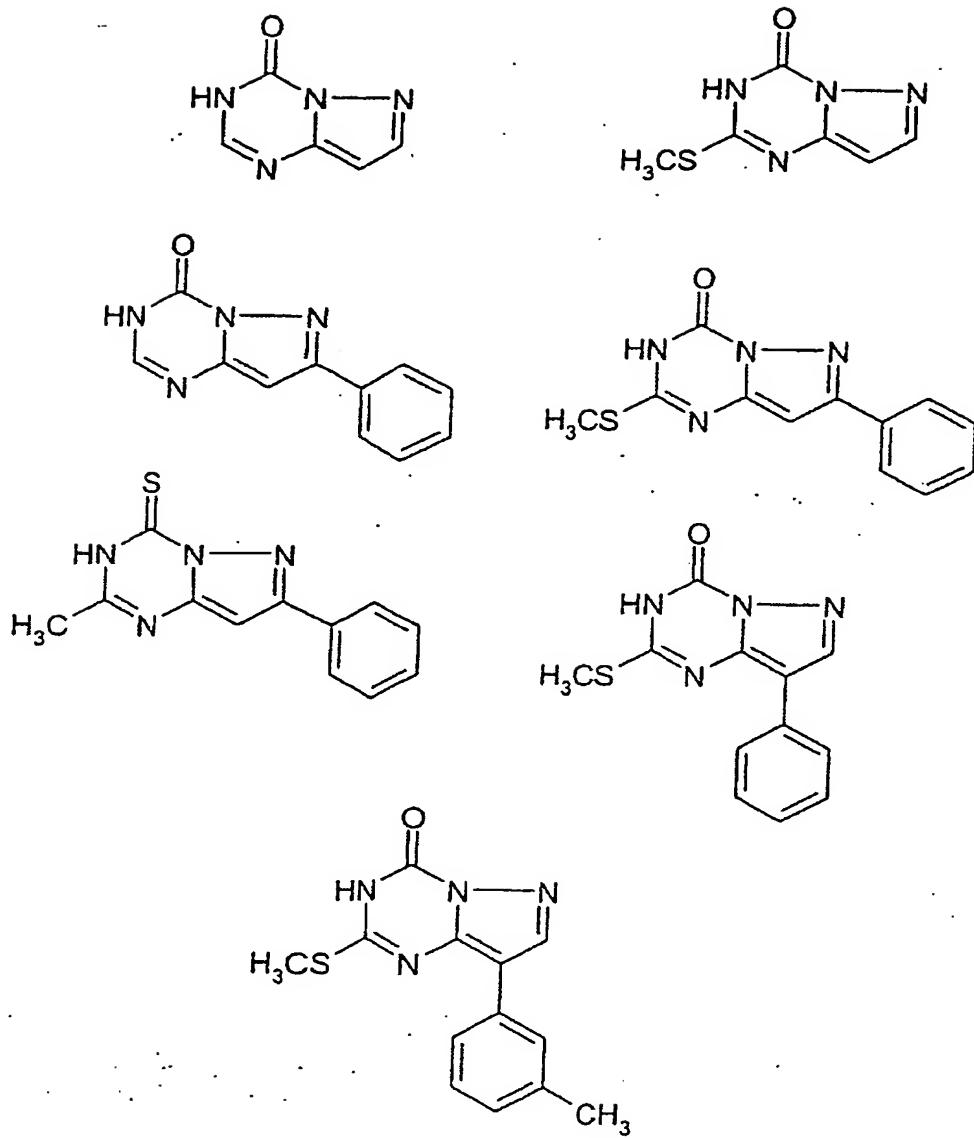
for preparing a medicinal product intended to increase intracellular levels of cGMP through inhibition of a phosphodiesterase or of heme oxygenase, for treating or preventing, in a mammal, central or peripheral diseases, comprising the administration to this mammal of an effective amount of a compound as claimed in any one of claims 1 to 11.

14. The use of a compound as claimed in any one of claims 1 to 11, including the compounds corresponding to the following formulae:



for preparing a medicinal product intended to inhibit a phosphodiesterase type 2 or 4, for treating or preventing, in a mammal, central or peripheral diseases chosen from inflammatory diseases, chronic obstructive  
5 bronchopathies, rhinitis, dementia, acute respiratory distress syndrome, allergies, dermatitis, psoriasis, rheumatoid arthritis, infections (in particular viral infections), autoimmune diseases, multiple scleroses (in particular multiple sclerosis), dyskinesias,  
10 glomerulonephritis, osteoarthritis, cancer, septic shock, AIDS, Crohn's disease, osteoporosis, rheumatoid arthritis, obesity, depression, anxiety, schizophrenia, bipolar disorder, attention deficits, fibromyalgia, Parkinson's disease and Alzheimer's disease, diabetes,  
15 amyotrophic sclerosis, multiple sclerosis, Lewy body dementias, conditions with spasms such as epilepsy, fibromyalgia, central nervous system pathologies associated with senescence, memory disorders, and other psychiatric disorders, comprising the administration to  
20 this mammal of an effective amount of a compound as claimed in any one of claims 1 to 11.

15. The use of the compounds as claimed in any one of claims 1 to 8, including the compounds corresponding to  
25 the following formulae:



as a medicinal product, in particular as antimicrobial, antiviral or anticancer medicinal products, or else medicinal products having cardiovascular effects.

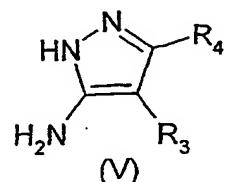
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16. A pharmaceutical composition comprising at least one compound as claimed in any one of claims 1 to 11, combined with a pharmaceutically acceptable vehicle or excipient.

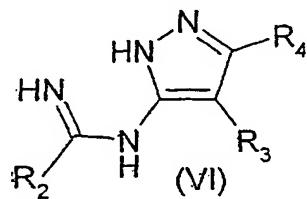
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17. A method for preparing a compound of formulae (Ia) or (Ib) as claimed in claim 3, in which R<sub>1</sub>=H, characterized in that it comprises the following steps:

a) reaction of a compound of general formula (V)

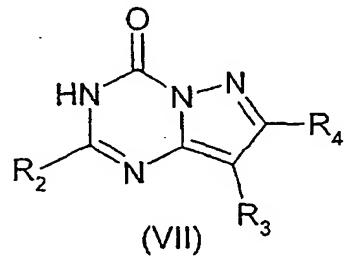


in which R<sub>3</sub> and R<sub>4</sub> are as defined in claim 3, with a  
5 compound a group of formula R<sub>2</sub>C(GP)=NH, in which R<sub>2</sub> is  
as defined in claim 3 and GP represents a leaving group,  
group, so as to obtain a compound of formula (VI)

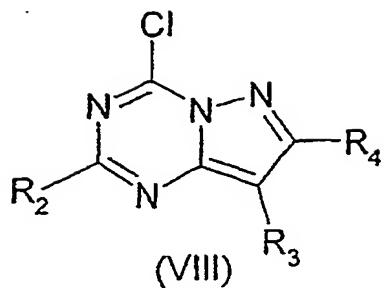


b) reaction of the compound of formula (VI) with a  
dielectrophile so as to obtain a compound of formula  
10 (Ia) or (Ib).

18. The method as claimed in claim 17, characterized  
in that, during step a), the compound of formula (V) is  
reacted with an imidate of formula R<sub>2</sub>(OMe)=NH.HCl and,  
15 during step b), the compound obtained in a) is reacted  
with an ethyl carbonate so as to obtain a compound of  
formula (VII)



which can optionally be reacted with phosphorus oxy-  
20 chloride and a tertiary amine so as to obtain a  
compound of formula (VIII)



which can, if desired, be reacted with an amine of formula HNR<sub>x</sub>R<sub>y</sub> so as to obtain a compound of formula (Ib) in which Y=NR<sub>x</sub>R<sub>y</sub>.

5

19. The method as claimed in claim 18, characterized in that, when Y represents an N-methyl-N-phenylamino group, then the compound (Ib) is treated with a hydroxide so as to obtain a compound of formula (Ib) in  
10 which Y=OH.

20. The use of the following compounds:

8-(1-hydroxypropyl)-2-methyl-4-(N-methyl-N-phenylamino)pyrazolo[1,5-a]-1,3,5-triazine, ethyl 2-methyl-4-(N-methyl-N-phenylamino)pyrazolo[1,5-a]-1,3,5-triazine-6-carboxylate, 2-methyl-4-(N-methyl-N-phenylamino)-8-phenylpyrazolo[1,5-a]-1,3,5-triazine, 2-methyl-4-(N-methylamino)-8-(prop-1-ynyl)pyrazolo[1,5-a]-1,3,5-triazine, 2-methyl-4-(N-methyl-N-phenylamino)-8-(β-D-glycero-pentofuran-3'-ulos-1'-yl)pyrazolo[1,5-a]-1,3,5-triazine, 2-methyl-4-(methylamino)pyrazolo[1,5-a]-1,3,5-triazine, 2-methyl-4-[4-(N,N-dimethylamino-phenyl)]pyrazolo[1,5-a]-1,3,5-triazine, pyrazolo[1,5-a]-1,3,5-triazin-4-one, 2-methylpyrazolo[1,5-a]-1,3,5-triazin-4-one, 2-thioxo-1,2,3,4-tetrahydro-pyrazolo[1,5-a]-1,3,5-triazin-4-one, 2-thiomethyl-pyrazolo[1,5-a]-1,3,5-triazin-4-one, 2-methyl-4-(N-methyl-N-phenylamino)pyrazolo[1,5-a]-1,3,5-triazine, 2-methyl-4-[N-methyl-N-(4-nitrophenyl)amino]-8-nitro-pyrazolo[1,5-a]-1,3,5-triazine, 8-amino-4-[N-(4-amino-phenyl)-N-methylamino]-2-methylpyrazolo[1,5-a]-1,3,5-triazine, 8-acetamido-4-[N-(4-acetamidophenyl)-N-

methylamino]-2-methylpyrazolo[1,5-a]-1,3,5-triazine,  
8-iodo-2-methyl-4-(N-methyl-N-phenylamino)pyrazolo-[1,5-a]-1,3,5-triazine, 8-[ (hydroxy) (phenyl)methyl]-2-methyl-4-(N-methyl-N-phenylamino)pyrazolo[1,5-a]-1,3,5-triazine, 8-benzyl-2-methyl-4-(N-methyl-N-phenylamino)-pyrazolo[1,5-a]-1,3,5-triazine, 8-benzoyl-2-methyl-4-(N-methyl-N-phenylamino)pyrazolo[1,5-a]-1,3,5-triazine, N,N-diethyl-2-methyl-4-(N-methyl-N-phenylamino)-pyrazolo[1,5-a]-1,3,5-triazine-6-carboxamide, 8-benzyl-2-methylpyrazolo[1,5-a]-1,3,5-triazin-4-one and 8-benzoyl-2-methylpyrazolo[1,5-a]-1,3,5-triazin-4-one, for preparing a medicinal product intended to increase the secretion of one or more neurotrophic factors for treating or preventing pathologies involving neuronal degeneration.